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10/561,192

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09/17/2008

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EXAMINER

HERRERA, DIEGO D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/561,192 | Applicant(s) ZALIO ET AL. | |
| | Examiner DIEGO HERRERA | Art Unit 2617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement filed 12/16/2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

The drawings are objected to because misspellings on drawing see word "synchronization". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date

Art Unit: 2617

of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because misspellings throughout the abstract. Correction is required. See MPEP § 608.01(b).

Claim Objections

Claims 1 and 3 are objected to because of the following informalities: misspellings in multiple claims "NOISE", "SYNCHRONIZATION", etcetera. Appropriate correction is required.

Claims 1-4 are objected to because of the following informalities: please, change "if" statements to "when". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-6 are rejected under 35 U.S.C. 102 (b) as being anticipated by Bada et al. (US 20050075125 A1).

Regarding claim 5. Bada et al. discloses a method of cell search in a wireless communication system having a plurality of base stations and a mobile station (abstract,

Art Unit: 2617

title, fig. 1, ¶: 1, 3, Bada et al. teaches a plurality of base stations and mobile stations in cell search architecture communication system), each of the plurality of the base stations serving a separate cell within a service area (abstract, title, ¶: 3, Bada et al. teaches base stations are observant of the cluster rules for frequency assignment), the method comprising the steps of:

executing the cell search at a first frequency interval by scanning a band (abstract, ¶: 2, 24, 35, 56, Bada et al. teaches cell search first frequency interval being that of 1.6 MHz); and

executing the cell search at a second frequency interval wider than the first frequency interval (abstract, ¶: 35, 56, 64, Bada et al. teaches second cell search being wider than the first frequency search as the second frequency search is that of 200 kHz).

Regarding claim 6. Bada et al. discloses a mobile station for use in a wireless communication system having a plurality of base stations each of which serving a separate cell within a service area, characterized in that the mobile station executes cell search (abstract, title, fig. 1, ¶: 1, 3, Bada et al. teaches a plurality of base stations and mobile stations in cell search architecture communication system) in a first phase by scanning a band a first frequency interval (abstract, ¶: 2, 24, 35, 56, Bada et al. teaches cell search first frequency interval being that of 1.6 MHz) and in a second phase by scanning the band at a second frequency interval wider than the first frequency interval (abstract, ¶: 35, 56, 64, Bada et al. teaches second cell search being wider than the first frequency search as the second frequency search is that of 200 kHz).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bada et al. (US 20050075125 A1), and in view of Amerga et al. (US 7369534 B2).

Regarding claim 1. Bada et al. discloses a method of cell search in a wireless communication systems having a plurality of base stations and a mobile station (abstract, title, fig. 1, ¶: 1, 3, Bada et al. teaches a plurality of base stations and mobile stations in cell search architecture communication system), each of the plurality of base stations serving a separate cell within a service area and transmitting a common primary synchronization code (PSC) in a primary synchronization channel (¶: 6-8, 11, Bada et al. teaches primary synchronization code in a primary synchronization channel) within a slot of a radio frame (¶: 6-11, 34, 36, Bada et al. teaches synchronization information that of slot, frame, multi-frame, or super-frame), the method including the steps of;

(a) scanning through radio channels in scanning increments corresponding to a standard channel raster (abstract, ¶: 24, 56, 61-69, Bada et al. teaches scanning radio channels in increments corresponding to a channel raster);

(b) estimating the PSC signal-to-noise ratio of each radio channel (¶: 70, 80-81, Bada et al. teaches signal-to-noise ratio of radio channel is determined to be low hence

Art Unit: 2617

estimating means of signal-to-noise ratio);

(c) However, Bada et al. does not specifically discloses some of the elements, nevertheless, Amerga et al. teaches if a PSC signal-to-noise ratio is above a first predetermined threshold level (fig. 8, col. 8 lines: 66—col. 9 lines: 20, Amerga et al. teaches predetermined threshold level), completing a cell search procedure including slot synchronization (col. 4 lines: 41—col.5 lines: 8, Amerga et al. teaches slot synchronization, whole reference is cited), frame synchronization and scrambling code detection steps for that radio channel (col. 4 lines: 41—col.5 lines: 8, Amerga et al. teaches scrambling code detection and knowledge); therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to specifically include the teachings of Amerga et al. for the purposes of reducing search time by using scrambling codes (col. 1 lines: 6-8, abstract)

(d) if the cell search procedure is successfully completed for the radio channel in step (c), increasing the scanning increments to the broadcast frequency separation between cells (§§: 102, 105, Bada et al. teaches incrementing scanning to the broadcast frequency);

(e) when all radio channels are scanned in step (d), sorting the scanned radio channels in descending order by PSC signal-to-noise ratio (§§: 4, 25, 63, 81, 84, Bada et al. teaches list of highest priority and level of noise ratio, hence, sorting the scanned radio channels); and

(f) performing the cell search-procedure on each sorted radio channel in descending

Art Unit: 2617

order (abstract, fig. 12, ¶: 84, Bada et al. teaches several scan tables rough and fine, hence, performing cell search on the list).

Regarding claim 3. Bada et al. discloses a mobile station for use in a wireless communication system including a plurality of base stations, each of the plurality of base stations serving a separate cell within a service area (abstract, title, fig. 1, ¶: 1, 3, Bada et al. teaches a plurality of base stations and mobile stations in cell search architecture communication system) and transmitting a common primary synchronization code (PSC) in a primary synchronization channel (¶: 6-8, 11, Bada et al. teaches primary synchronization code in a primary synchronization channel) within a slot of a radio frame (¶: 6-11, 34, 36, Bada et al. teaches synchronization information that of slot, frame, multi-frame, or super-frame), the mobile station including: scanning means for scanning through possible radio channels (abstract, ¶: 24, 56, 61-69, Bada et al. teaches scanning radio channels in increments corresponding to a channel raster); cell search means for completing a cell search procedure including slot synchronization means (¶: 6-11, 34, 36, Bada et al. teaches synchronization information that of slot, frame, multi-frame, or super-frame), frame synchronization means and scrambling code detection means (¶: 6-11, 34, 36, Bada et al. teaches synchronization information that of slot, frame, multi-frame, or super-frame); and processing means for controlling operation of the mobile station, wherein the scanning means scans through possible radio channels in scanning increments corresponding to a standard channel raster (abstract, ¶: 24, 56, 61-69, Bada et al. teaches scanning radio

Art Unit: 2617

channels in increments corresponding to a channel raster); the slot synchronization means estimates the PSC signal-to-noise ratio of each radio channel (¶: 70, 80-81, Bada et al. teaches signal-to-noise ratio of radio channel is determined to be low hence estimating means of signal-to-noise ratio);

However, Bada et al. does not specifically discloses some of the elements herewith; nevertheless, Amerga et al. teaches if a PSC signal-to-noise ratio is above a first predetermined threshold level (fig. 8, col. 8 lines: 66—col. 9 lines: 20, Amerga et al. teaches predetermined threshold level), completing a cell search procedure including slot synchronization (col. 4 lines: 41—col.5 lines: 8, Amerga et al. teaches slot synchronization, whole reference is cited), frame synchronization and scrambling code detection steps for that radio channel (col. 4 lines: 41—col.5 lines: 8, Amerga et al. teaches scrambling code detection and knowledge); therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to specifically include the teachings of Amerga et al. for the purposes of reducing search time by using scrambling codes (col. 1 lines: 6-8, abstract)

the cell search means acts to complete the cell search procedure for that radio channel (¶: 15, Bada et al. teaches search cell means to complete cell search procedure for radio channels), If the processing means determines that the PSC signal-to-noise ratio is above a first predetermined threshold level (abstract, fig. 1-3, ¶: 18-19, 25-27, Bada et al. teaches processing means for signal-to-noise ratio);

the processing means increasing the scanning increments to the broadcast frequency separation between cells, if the cell search procedure is successfully completed for that

Art Unit: 2617

radio channel (§§: 102, 105, Bada et al. teaches incrementing scanning to the broadcast frequency);

the processing means further acting to sort the scanned radio channels in descending order by PSC signal-to-noise ratio when all radio channels are scanned (§§: 4, 25, 63, 81, 84, Bada et al. teaches list of highest priority and level of noise ratio, hence, sorting the scanned radio channels);

the cell search means performing the cell search procedure on each sorted radio channel in descending order (abstract, fig. 12, §§: 84, Bada et al. teaches several scan tables rough and fine, hence, performing cell search on the list).

Consider claim 2. A method of cell search according to claim 1, Bada et al. discloses wherein if the cell search procedure defined by steps (a) to (f) is not successful, the method includes the step of:

However, Bada et al. doesn't disclose specifically the limitations press herewith, nevertheless, Amerga et al. teaches if more than a predetermined number of sorted radio channels have been searched without detecting cells on any of the searched radio channels, discontinuing the cell search procedure (col. 12 lines: 51-55, Amerga et al. teaches searching radio channels when these are not detected it stops searching).

Consider claim 4. A mobile station according to claim 3, Bada et al. discloses wherein if the cell search procedure is not successful, the processing means acts to:

discontinue the cell search procedure if more than a predetermined number of sorted radio channels have been searched without detecting cells on any of the searched radio

Art Unit: 2617

channels (col. 12 lines: 51-55, Amerga et al. teaches searching radio channels when these are not detected it stops searching).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIEGO HERRERA whose telephone number is (571)272-0907. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Diego Herrera/
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617